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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/756,686	01/09/2001	Kazuo Matsuzaki	FUJI:179	4650

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ROSSI & ASSOCIATES
P.O. Box 826
Ashburn, VA 20146-0826

EXAMINER	
LOKE, STEVEN HO YIN	
ART UNIT	PAPER NUMBER
2811	

DATE MAILED: 04/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/756,686	MATSUZAKI ET AL.	
	Examiner	Art Unit	
	Steven Loke	2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *4-6,8,10,12 and 14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *4-6,8,10,12 and 14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 4-6, 8, 10, 12 and 14 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Nakamura et al.

In regards to claim 4, Nakamura et al. show all the elements of the claimed invention in figs. 1 and 2. It is a semiconductor device exhibiting a high breakdown voltage, the semiconductor device comprising: a semiconductor substrate [11] of a second conductivity type (p-type); a first region [13] of a first conductivity type (n-type) formed selectively in the surface portion of the semiconductor substrate; a second region [15] of the second conductivity type formed selectively in the surface portion of the semiconductor substrate; a third region [17] of the first conductivity type formed selectively in the surface portion of the first region [13]; the second region [15] and the third region [17] being spaced apart from each other; a fourth region [21] of the first conductivity type formed selectively in the surface portion of the second region [15]; an offset region [19] of the second conductivity type formed selectively in the surface portion of the first region [13] between the second region [15] and the third region [17]; a first insulation film [32] on the offset region [19]; a gate electrode [33] above the extended portion of the second region [15] extending between the fourth region [21] and

the first region [13] with a gate insulation film [32] interposed between the extended portion of the second region [15] and the gate electrode [33]; a first main electrode [27] on the fourth region [21]; and a second main electrode [25] on the third region [17]; wherein the offset region [19] comprises a plurality of sub-regions aligned between the second region [15] and the third region [17], the impurity concentrations of the sub-regions being different from each other (fig. 2).

It is inherent that the offset region [19] becomes a depletion layer when the device is turned OFF because there is always a depletion region formed in the area adjacent to the pn junction between the p-type offset region [19] and the n-type region [13].

In regards to claim 5, Nakamura et al. further disclose the depths of the sub-regions of the offset region [19] are different from each other.

In regards to claim 6, Nakamura et al. further disclose the gate electrode [33] is extended onto the first insulation film [32].

In regards to claim 8, Nakamura et al. further disclose the impurity concentration of the sub-region on the side of the second region [15] is higher than the impurity concentration of the sub-region on the side of the third region [17].

In regards to claim 10, Nakamura et al. further disclose the diffusion depth of the sub-region on the side of the second region [15] is deeper than the diffusion depth of the sub-region on the side of the third region [17].

In regards to claim 12, Nakamura et al. further disclose the impurity concentration of the sub-region is the concentration of an impurity of the second conductivity type (p-type).

In regards to claim 14, Nakamura et al. further disclose the offset region [19] contains the first conductivity type (n-type) impurity because the p-type offset region [19] is formed in the surface of the n-type first region [13].

In regards to claim 14, the process limitation of how the offset region is formed has no patentable weight in claim drawn to structure. Note that a "product by process" claim is directed to the product per se, no matter how actually made, In re Hirao, 190 USPQ 15 at 17 (footnote 3). See also In re Brown, 173 USPQ 685; In re Luck, 177 USPQ 523; In re Fessmann, 180 USPQ 324; In re Avery, 186 USPQ 161; In re Wertheim, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); and In re Marosi et al, 218 USPQ 289, all of which make it clear that it is the patentability of the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that an old or obvious product by a new method is not patentable as a product, whether claimed in "product by process" claims or not. Note that applicant has the burden of proof in such cases, as the above caselaw makes clear.

Therefore, the phrase "the surface impurity concentration of the offset region of the second conductivity type is changed by adding an impurity of the first conductivity type, the amount thereof being less than the amount of the impurity of the second conductivity type in the offset region" is thus non-limiting.

3. Applicant cannot rely upon the foreign priority papers to overcome the above rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Loke whose telephone number is (571) 272-1657. The examiner can normally be reached on 7:50 am to 5:20 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (571) 272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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March 26, 2004

Primary Examiner

Steven Loke